

Scrum machine with actively adjustable impact angle

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Abstract

A scrum machine apparatus including a frame, at least one impact area, and at least one pressure device for applying pressure to the impact area. The pressure within the pressure device can be actively adjusted in order to controllably alter the relative angle between the impact area and the frame. The machine may also include a towing chassis and an impact absorbing system to allow the simulation of a real scrummage.

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COMPLETE SPECIFICATION

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SCRUMMAGING MACHINE

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hereby declare the invention for which I pray that a patent may be granted to me, and
the method by which it is to be performed to be particularly described in and by the
following statement:

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SCRUMMAGING MACHINE

TECHNICAL FIELD

This invention relates to a scrummaging machine.

In particular, but not exclusively, this invention relates to a piece of equipment used to
5 simulate a scrum against which scrum techniques and tactics can be practiced.

BACKGROUND ART

Scrummaging machines are well known and are utilised in order to practice
scrummaging techniques and tactics in order for a team to improve their performance.

Scrummaging (scrum) machines generally consist of a rigid framework with a set of
10 padded arms attached to the framework in a generally horizontal direction.

In order to practice the scrum players position themselves against the padded arms and
push against the framework.

The arms may have a damping system such as large coiled springs attached between
them and the framework in order that they act as a resilient force against any impact on
15 the arms.

While some scrum simulating machines are permanently located in a static position the
majority of these machines are styled as a sled and can therefore be pushed around the
training ground such as is disclosed in New Zealand Patent Application Number
203559.

20 These types of scrum simulating machine are however limited in their applicability as
they are completely passive in nature and are unable to indicate the performance of
each individual exerting a force upon them.

Another disadvantage is that they only allow for horizontal movement whereas in an actual game of rugby both vertical and horizontal as well as sideways (slewing or screwing) movement occurs.

Some improvements were achieved by the device disclosed in New Zealand Patent
5 Number 244589 which includes a method of measuring the force enacted against each impact arm during the training session.

Whilst being an improvement over the previous systems available this system also had some major drawbacks.

One major disadvantage with the scrummage machines currently available is that none
10 of them are able to simulate the slewing (screwing) of a real scrum and any systems that allow for any sideways movements such as that disclosed in New Zealand Patent Number 244589 can only move sideways when an uneven force is applied to it by the players practicing upon it. This kind of passive system is very limited in its usefulness as it cannot simulate any movement effects enacted upon the scrum by the opposing
15 team

Another problem with the current systems available is that the height of the pads cannot be adjusted vertically in order to allow for a difference in stature of the teams wishing to practice upon it. Most of these systems are purposefully built to allow for their use by adult players and therefore are unsuitable for junior or schoolboy teams.

20 It is an object of the present invention to address the foregoing problems or at least to provide the public with a useful choice.

Further aspects and advantages of the present invention will become apparent from the ensuing description which is given by way of example only.

DISCLOSURE OF INVENTION

According to one aspect of the present invention there is provided a training apparatus including

a frame, and

5 at least one impact area, and

at least one pressure device for applying pressure to at least one impact area,

characterised in that

the pressure within a pressure device can be actively adjusted in order that the relative angle between an impact area and the frame can be controllably altered.

10 It should be understood that the term frame used within the present specification shall be used to describe any part of the present invention other than an impact area or a pressure device.

It should be understood that the frame may include a chassis for towing the present invention on the open road and also includes the pressure absorbing system which can

15 simulate the give of a real scrum when pressure is placed upon the impact areas.

It should be further understood that the pressure device used within the present specification may be any device capable of being controlled to enact a variable pressure or resistance when a force is enacted upon it.

In preferred embodiments of the present invention the pressure device used will be a
20 pneumatic ram however this should be in no way seen to be a limitation upon the present invention as in other embodiments other systems can be used for instance a hydraulic ram.

In preferred embodiments of the present invention the pressure absorbing system is constructed of at least one pneumatic ram however once again this should not be seen to be a limitation upon the present invention as in other embodiments other systems may be used

- 5 It should be understood that the pressure absorbing system and each pressure device can be controlled either locally or by remote control in order that it can absorb a force from or enact a force upon an impact area.

The term impact area used within the present specification should be understood to mean any area upon which a player can exert a force during the normal operation of the
10 present invention.

It should be understood that in preferred embodiments of the present invention an impact area is constructed of a standard pad similar to that used with any other scrum simulating machine.

- Once again this should not be seen to be a limitation in any way upon the present
15 invention as in other embodiments other materials or methods may be used.

Also in preferred embodiments of the present invention the impact areas can be adjusted vertically in order that the present invention can be used by people of different statures. It is envisaged that one machine can be used from professional players down to those practicing in junior school.

- 20 Reference throughout the specification shall now be made to the pressure devices and the pressure absorbing system as being pneumatic rams, once again this should not be seen to be a limitation.

It should be appreciated that each pneumatic ram used with the present invention can be controlled individually and can have a variable push action or a variable give action
25 as desired

In some preferred embodiments of the present invention load cells are incorporated into the device in order to measure the pressure against each individual impact area.

In other embodiments of the present invention at least one load cell is located upon the device in order to measure the overall pressure placed against the present invention.

- 5 According to another aspect of the present invention there is provided a method of using a training apparatus including

a frame, and

at least one impact area, and

at least one pressure device for applying pressure to at least one impact area,

- 10 characterised by the steps of

placing a force against at least one impact area, and

adjusting the pressure within each pressure device in order to simulate the action of a real scrum

- 15 It should be appreciated that in some preferred embodiments of the present invention the frame is located in a static position.

This should be seen to in no way limit the present invention as in other embodiments the frame can be fitted upon a rolling chassis similar to that used within other scrum simulating machines, in order that the apparatus can be moved around the training area

- 20 In preferred embodiments a set of stabilising arms are fitted to the frame which can be lowered into contact with the ground in order to secure the apparatus into position whilst it is being used.

It is envisaged that in certain embodiments of the present invention a set of mats or other ground covering materials will be attached to the frame and extend out from the frame in order that whilst the apparatus is in use the person or persons using the apparatus will have their weight bearing down onto the mats in order to stop the
5 apparatus from moving along the surface upon which it is mounted.

It is expected that this embodiment will be used for mainly indoor use where the stabilising arms are not able to be deployed.

One advantage of using a static system is that it will not damage the turf upon which it is located and it can also be used within a smaller training area.

10 A major advantage of the present invention over the systems previously available is that it is an active rather than a passive system and can not only simulate the slewing (or screwing) action of a scrum but can also enact a user controllable give or push action similar to that found within a real scrum.

Another advantage of the present invention is that it can be located upon a roadgoing
15 chassis in order that it can be towed behind a conventional vehicle. This not only makes it more accessible to the average club or school team but also means that the one piece of equipment can be easily transported between sites.

As stated previously another advantage of the present invention is that the one piece of equipment can be adjusted in order that it can be used from school teams up to
20 professionals

BRIEF DESCRIPTION OF DRAWINGS

Further aspects of the present invention will become apparent from the following description which is given by way of example only and with reference to the accompanying drawings in which:

Figure 1 is a diagrammatical plan view of one preferred embodiment of the present invention with the sliding frame in its retracted position;

Figure 2 is the apparatus shown in figure 1, with the sliding framework in its extended position, and

5 Figure 3 is the apparatus shown in figure 1 and figure 2 with the impact area in a slewed orientation in order to simulate the slewing (or screwing) of the scrum.

BEST MODES FOR CARRYING OUT THE INVENTION

10 With respect to the figures there is illustrated a training apparatus generally indicated by arrow 1.

The training apparatus 1 consists of a static framework 2 containing a slot or sliding mechanism within its side walls into which the sliding framework 3 is fitted.

15 In order to improve clarity of the drawings the static framework is shown in thin lines. The framework 2 & 3 is constructed within the specifications used for a standard trailer and includes a set of road wheels 4 a tow hitch 5 for mounting to a vehicle and a trailer turning wheel 6 in order that it can be more easily positioned when it is needed to be used

20 In preferred embodiments a set of stabilising arms are fitted to the static framework 2 which can be lowered into contact with the ground in order to secure the apparatus into position whilst it is being used. These stabilising arms are not shown in the drawings in order to improve the clarity of the figures. The stabilising arms can be raised and locked into position when the apparatus 1 is required to be moved or transported.

A set of resistance rams 7 are connected between the static framework 2 and the sliding framework 3 in order to control the movement of the sliding framework 3 with

respect to the static framework 2 when a force is enacted upon the impact pads 8.

Figure 1 shows the sliding framework 3 pushed into its retracted position within the static framework 2 as can be expected when the team practicing the scrum manage to make headway against the resistance rams 7 and this can be controlled either locally or
5 remotely by adjusting the pressure within the resistance rams 7

Figure 2 shows the sliding framework 3 in its extended position with respect to the static framework 2 as can be expected either at the start of a practice session or when the pack has been pushed backwards by the pressure within the resistance rams 7 in order to simulate a situation in a real game when the opposing pack has more power
10 than your own.

Both of these configurations have great advantages for the training of a team as they allow the members of the team to train in an active environment rather than a passive environment which is therefore far more realistic to the type of situation they are likely to come up against in a match.

15 Figure 3 shows the apparatus 1 with the sliding framework 3 in its extended position, and with the impact pads 8 in a slewed attitude with respect to the framework 2 & 3 as can be expected in a real scrum when it slews (screws).

This slewing of the pack is simulated by altering the pressures between the pneumatic rams 9 in order to change the angle of the impact pads 8 with respect to the framework
20 2 & 3 The pressures within the pneumatic rams 9 can be controlled individually by a player or the coach in order that the players practicing using the apparatus 1 can have the equipment simulate different amounts of slew and/or push or give

The impact pads 8 are connected to the sliding framework via a pivot point 10 in order that this slewing action can be enacted and controlled.

Aspects of the present invention have been described by way of example only and it should be appreciated that modifications and additions may be made thereto without departing from the scope of the appended claims.

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WHAT I CLAIM IS:

1. A training apparatus including

a frame, and

at least one impact area, and

at least one pressure device for applying pressure to at least one impact area,

characterised in that

the pressure within a pressure device can be actively adjusted in order that the relative angle between an impact area and the frame can be controllably altered.
2. A training apparatus as claimed in claim 1 wherein the frame includes a chassis capable of being towed on the open road.
3. A training apparatus as claimed in any previous claim wherein the frame includes a pressure absorbing system configured to simulate the give of a real scrummage when pressure is placed upon the impact areas.
4. A training apparatus as claimed in claim 3 wherein the pressure absorbing system includes at least one pneumatic ram.
5. A training apparatus as claimed in claim 3 or claim 4 wherein each pressure absorbing system can be controlled either locally or via a remote control.
6. A training apparatus as claimed in any previous claim wherein the position of an impact area can be adjusted so that the height of the training apparatus can be configured in order that the same machine may be used for players of different statures

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7. A training apparatus as claimed in any previous claim wherein the training apparatus is configured with at least one load cell in order to measure the pressure against each individual impact area.
8. A training apparatus as claimed in claim 7 wherein at least one load cell is configured to measure the overall pressure placed against the training apparatus.
9. A training apparatus as claimed in any previous claim wherein the frame contains at least one stabilising arm that is configured to be lowered into contact with the ground in order to secure the training apparatus into position whilst it is being used.
10. A method of using a training apparatus, including

a frame, and

at least one impact area, and

at least one pressure device for applying pressure to at least one impact area,

characterised by the steps of
 - a) placing a force against at least one impact area, and
 - b) adjusting the pressure within each pressure device to simulate the action of a scrummage.
11. A training apparatus as herein described with reference to and as illustrated by the accompanying drawings.

Robin Christopher Feltrim FAGAN

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ABSTRACT

A training apparatus including a frame, and at least one impact area, and at least one pressure device for applying pressure to at least one impact area, characterised in that the pressure within a pressure device can be actively adjusted in order that the relative angle between an impact area and the frame can be controllably altered

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FIG 1

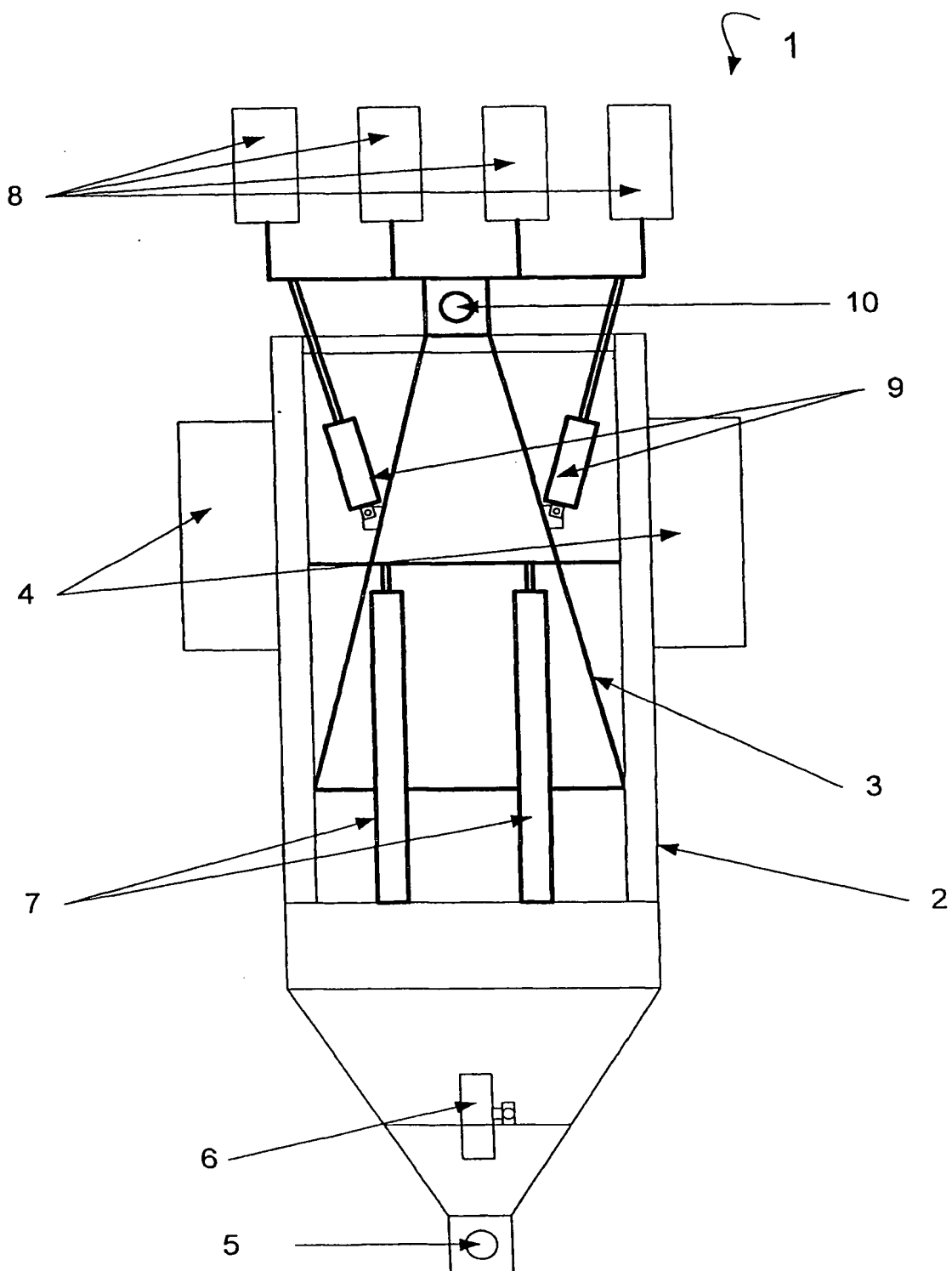


FIG 2

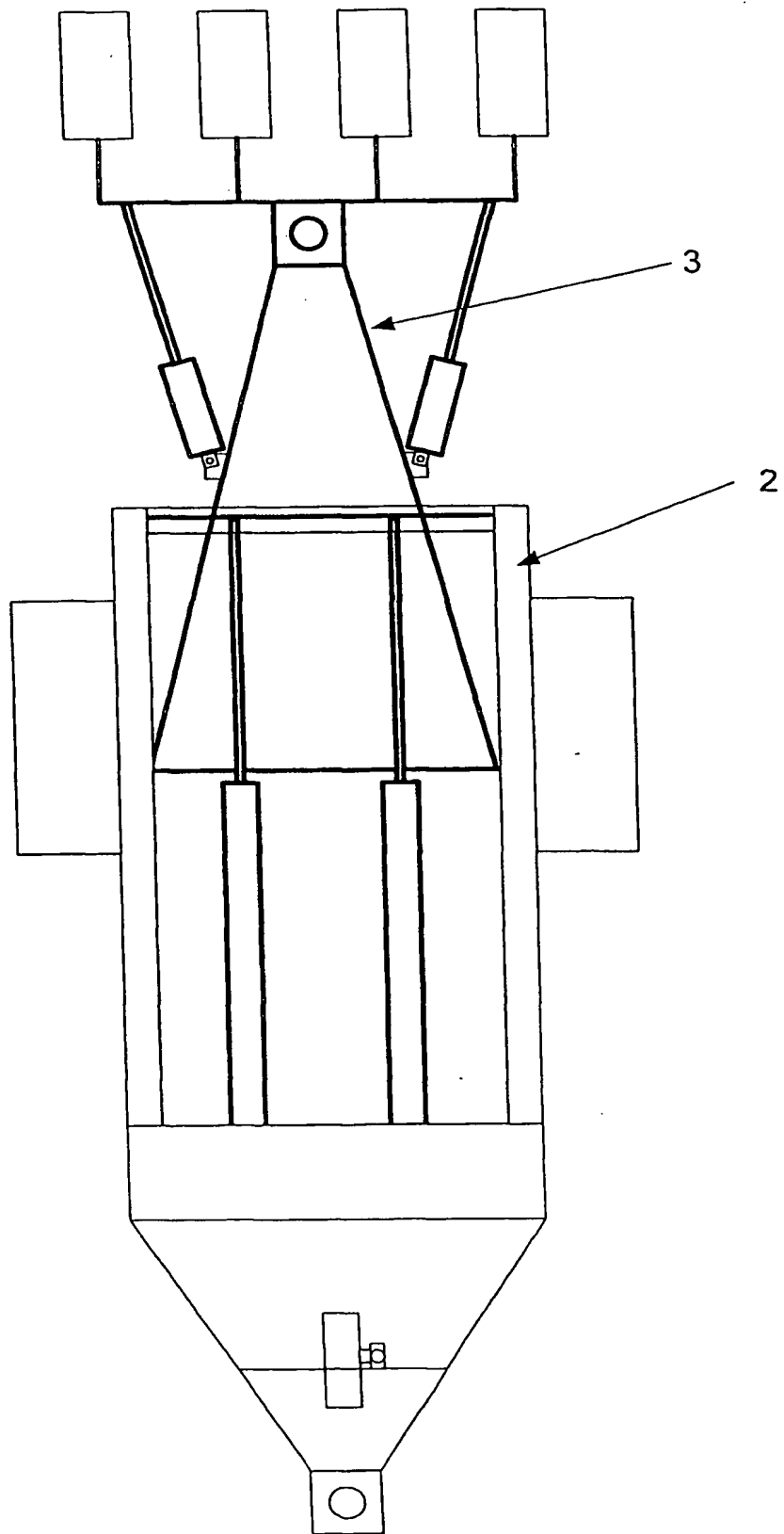


FIG 3

